

June 25, 2003

Mr. Douglas E. Cooper
Site Vice President
Palisades Nuclear Plant
Nuclear Management Company, LLC
27780 Blue Star Memorial Highway
Covert, MI 49043-9530

SUBJECT: PALISADES NUCLEAR GENERATING PLANT
NRC INSPECTION REPORT 07200007/2003-001(DNMS)

Dear Mr. Cooper:

On June 4, 2003, the NRC completed an inspection at your Palisades Nuclear Generating Plant. The purpose of the inspection was to evaluate concrete work being performed to construct a new spent fuel storage pad. At the conclusion of on-site inspections on May 8, and May 20, 2003, the inspectors discussed the preliminary inspection findings with you and members of your staff. A final exit meeting was conducted on June 4, 2003, with you and members of your staff.

This inspection consisted of an examination of independent spent fuel storage construction activities at the Palisades Nuclear Plant as they relate to safety and compliance with the Commission's rules and regulations. Areas examined during the inspection are identified in the enclosed report. Within these areas, the inspection consisted of a selective examination of procedures and representative records, observations of activities in progress, and interviews with personnel.

Based on the results of this inspection, the NRC did not identify any violations. The construction activities reviewed were being conducted in accordance with applicable regulations and license conditions.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>.

D. Cooper

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We will gladly discuss any questions you may have regarding this inspection.

Sincerely,

/RA by K. O'Brien Acting for/

Christopher G. Miller, Chief
Decommissioning Branch

Docket No. 07200007
License No. DPR-20

Enclosure: Inspection Report 07200007/2003-001

cc w/encl: J. Cowan, Executive Vice President
and Chief Nuclear Officer
R. Fenech, Senior Vice President, Nuclear
Fossil and Hydro Operations
L. Lahti, Manager, Regulatory Affairs
J. Rogoff, Esquire, Nuclear Management Company, LLC
A. Udrys, Esquire, Consumers Energy Company
R. Remus, Plant Manager
D. Malone, Site Director
S. Wawro, Nuclear Asset Director, Consumers Energy Company
W. Rendell, Supervisor, Covert Township
Office of the Governor
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Waste and Hazardous Materials Division
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U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Docket No. 07200007
License No. DPR-20

Report No. 07200007/2003-001(DNMS)

Licensee: Nuclear Management Company, LLC

Facility: Palisades Nuclear Generating Plant

Location: 27780 Blue Star Memorial Highway
Covert, MI 49043-9530

Dates: May 7, 8, 19, 20, 2003, and
June 3 and 4, 2003

Inspector: Ross B. Landsman, Project Engineer

Approved by: Christopher G. Miller, Chief
Decommissioning Branch
Division of Nuclear Materials Safety

EXECUTIVE SUMMARY

Palisades Nuclear Generating Plant NRC Inspection Report 07200007/2003-001(DNMS)

The purpose of this inspection was to review the concrete work being performed to construct the new independent spent fuel storage pad at the Palisades Nuclear Generating Plant. Overall, the concrete work for the spent fuel storage pad was performed adequately.

Report Details

1.0 New Dry Cask Storage Pad Construction Activities (60853)

a. Inspection Scope

The inspector evaluated the concrete work being performed for the new dry cask storage pad location.

b. Observations and Findings

Prior to starting the concrete work, the licensee evaluated lessons learned from pouring concrete associated with the construction of the Big Rock Point storage casks. This evaluation resulted in the licensee hiring an experienced concrete construction company to build the Independent Spent Fuel Storage Installation (ISFSI) pads instead of attempting to carry out the work with site personnel who are less experienced in concrete work.

The inspector determined that the reinforcing steel was of the right size, was properly placed, and was tied-off appropriately according to Drawing 8-C-3063, "ISFSI Cask Storage Pad." The insides of the forms were clean and free of any debris.

The inspector visited the concrete batch plant, Consumers Concrete Corporation Plant Number 7 (no connection to the licensee), in South Haven, Michigan, and concluded that the computer controlled plant met all requirements and was providing the specified concrete to the site. The bins for the fine and coarse aggregate operated so as to discharge efficiently and freely, with minimum segregation, into the weighing hoppers. The hoppers were constructed so as to eliminate accumulations of tare weight material and fully discharge to a clean conveyor belt dumping into the mixing truck. The plant was last certified by the National Ready Mixed Concrete Association (NRMCA) on August 14, 2001, and the certification is current. The scales are checked every six months by plant staff, as required by the NRMCA. The concrete admixture liquid dispensers are checked every three months by the admixture suppliers. The admixture tanks are appropriately labeled and sealed against evaporation.

The batch plant pre-certified certain concrete mixing trucks to be used for this job, and these were verified by licensee personnel. The licensee placed careful attention to the truck mixing tank rotational limit of 300 revolutions, as evidenced by two condition reports, on two different concrete pours, identifying faulty counters. Both condition reports, CAP 035432, dated April 25, 2003, and CAP 035705, dated May 14, 2003, were appropriately dispositioned.

The correct sampling and testing of the concrete was performed. Slump, air-content, and temperature tests were routinely performed along with break cylinder specimens.

Advance planning before the concrete was poured, helped to assure that the concrete was of the highest quality. However, on the last pour (the only pour inspected), care was not taken to ensure that the concrete had an unrestricted vertical drop to the point of placement, as required by American Concrete Institute (ACI) Standard 304. The stream of concrete was allowed to hit the upper level of reinforcing steel, causing some aggregate separation. This also allowed the concrete to clump on the upper rebar

surface and dry before the next concrete pour was placed, not allowing proper bonding of the reinforcing steel with the remaining concrete. The licensee agreed to evaluate what effect this had on the previous four concrete pours and the last pour by documenting this issue on a condition report (CAP 036030). This item is considered unresolved pending the inspector's review of the licensee evaluation (URI 072007/2003-001-01).

Proper consolidation of the pour was accomplished by using a systematic pattern of vibration to ensure that all the concrete was adequately consolidated. The use of experienced and competent vibrator operators and other crew members helped to ensure a satisfactory and successful consolidation of concrete as observed by the lack of honeycombing and unacceptable air voids on the four previous pours.

c. Conclusions

The inspectors determined that the licensee staff appropriately applied previous lessons learned, employed experienced personnel, and made adequate concrete pours, which met the license requirements.

2.0 Exit Meeting Summary

The inspection results were presented to members of licensee management during interim exit meetings on May 8 and 20, 2003, and during a final exit meeting on June 4, 2003. The licensee did not identify any information discussed as being proprietary.

PARTIAL LIST OF PERSONS CONTACTED

- D. Cooper, Site Vice President
- B. Rice, Dry Fuel Supervisor
- D. G. Malone, Licensing
- J. Broschak, Dry Fuel Services Program Manager
- D. J. Malone, Plant General Manager

INSPECTION PROCEDURE USED

IP 60853: Construction of an Independent Spent Fuel Storage Installation

LIST OF DOCUMENTS REVIEWED

The licensee documents reviewed and utilized during the course of this inspection are specifically identified in the "Report Details" above.

ITEMS OPENED, CLOSED, AND DISCUSSED

<u>Opened</u>	<u>Type</u>	<u>Summary</u>
07200007/2003-001-01	URI	Acceptability of the concrete pad

Closed

None

Discussed

None

ACRONYMS and INITIALISMS

ADAMS	Agencywide Documents Access and Management System
ISFSI	Independent Spent Fuel Storage Installation
NRMCA	National Ready Mixed Concrete Association
NRC	Nuclear Regulatory Commission
ACI	American Concrete Institute